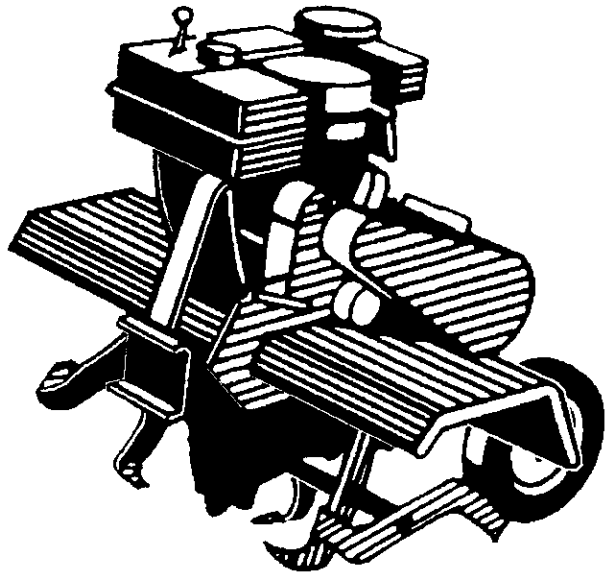
Owner's Manual

CRAFTSMAN®

8.0 HP
30 INCH TINE WIDTH
SLEEVE HITCH
TILLER ATTACHMENT

Model No.
917.242484



CAUTION:
Read and follow all Safety Rules and Instructions before operating this equipment.

- **Safety**
- **Assembly**
- **Operation**
- **Maintenance**
- **Repair Parts**

This product has a low emission engine which operates differently from previously built engines. Before you start the engine, read and understand this Owner's Manual.

Sears, Roebuck and Co., Hoffman Estates, Il 60179
Visit our Craftsman website:www.sears.com/craftsman

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SAFETY RULES

Safe Operation Practices for Tiller Attachments.

TRAINING

- Read the operating and service instruction manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the unit and disengage the controls quickly.
- Never allow children to operate the equipment. Never allow adults to operate the equipment without proper instruction.
- Keep the area of operation clear of all persons, particularly small children, and pets.

PREPARATION

- Thoroughly inspect the area where the equipment is to be used and remove all foreign objects.
- Disengage all clutches and shift into neutral before starting the engine (motor).
- Do not operate the equipment without wearing adequate outer garments. Wear footwear that will improve footing on slippery surfaces.
- Handle fuel with care; it is highly flammable.
  - Use an approved fuel container.
  - Never add fuel to a running engine or hot engine.
  - Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
  - Replace gasoline cap securely and clean up spilled fuel before restarting.
- Never attempt to make any adjustments while the engine (motor) is running (except where specifically recommended by manufacturer).

OPERATION

- Do not put hands or feet near or under rotating parts.
- Exercise extreme caution when operating on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic. Do not carry passengers.
- After striking a foreign object, stop the engine (motor), remove the wire from the spark plug, thoroughly inspect the tiller for any damage, and repair the damage before restarting and operating the tiller.
- Exercise caution to avoid slipping or falling.
- If the unit should start to vibrate abnormally, stop the engine (motor) and check immediately for the cause. Vibration is generally a warning of trouble.
- Stop the engine (motor) when leaving the operating position, before unclogging the tines, and when making any repair, adjustments, and inspections.
- Take all possible precautions when leaving the machine unattended. Disengage the power take-off, lower the attachment, shift into neutral, stop the engine, and remove the key.
- Before cleaning, repairing, or inspecting, shut off the engine and make certain all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the plug to prevent accidental starting.
- Do not run the engine indoors; exhaust fumes are dangerous.
- Never operate the tiller without proper guards, plates, or other safety protective devices in place.
- Keep children and pets away.
- Do not overload the machine capacity by attempting to till too deep at too fast a rate.
- Never operate the machine at high speeds on slippery surfaces. Look behind and use care when backing.
- Lift tiller out of the ground when turning corners.
- Do not put tractor in reverse gear while tiller is in the ground.
- Never allow bystanders near the unit.
- Use only attachments and accessories approved by the manufacturer of the tiller (such as wheel weights, counterweights, cabs, etc.
- Never operate the tiller without good visibility or light.

MAINTENANCE AND STORAGE

- Keep machine, attachments, and accessories in safe working condition.
- Check shear bolts, engine mounting bolts, and other bolts at frequent intervals for proper tightness to be sure the equipment is in safe working condition.
- Never store the machine with fuel in the fuel tank inside a building where ignition sources are present, such as hot water and space heaters, clothes dryers, etc. Allow the engine to cool before storing in any enclosure.
- Always refer to the operator's guide instructions for important details if the tiller is to be stored for an extended period.

- IMPORTANT -

CAUTIONS, IMPORTANTS, AND NOTES ARE A MEANS OF ATTRACTING ATTENTION TO IMPORTANT OR CRITICAL INFORMATION IN THIS MANUAL.

IMPORTANT: USED TO ALERT YOU THAT THERE IS A POSSIBILITY OF DAMAGING THIS EQUIPMENT.

NOTE: Gives essential information that will aid you to better understand, incorporate, or execute a particular set of instructions.

Look for this symbol to point out important safety precautions. It mean CAUTION!!! BECOME ALERT!!! YOUR SAFETY IS INVOLVED.

CAUTION: Always disconnect spark plug wire and place wire where it cannot contact spark plug in order to prevent accidental starting when setting up, transporting, adjusting or making repairs.

⚠ WARNING ⚠

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

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PRODUCT SPECIFICATIONS

GASOLINE CAPACITY:	1 Gallon Unleaded Regular
OIL : (Capacity: 22 oz.)	SAE 30W (Above 32°F) SAE 5w-30 (Below 32°F)
TRANSMISSION OIL : (Capacity: 40 oz.)	SAE 30W
SPARK PLUG : (GAP: .030")	Champion RJ19LM or J19LM

CONGRATULATIONS on your purchase of a Sears tiller attachment. It has been designed, engineered and manufactured to give you the best possible dependability and performance.

Should you experience any problems you cannot easily remedy, please contact a Sears or other qualified service Center, which has competent, well trained technicians and the proper tools to service or repair this unit.

Please read and retain this manual. The instructions will enable you to assemble and maintain your tiller attachment properly. Always observe the "SAFETY RULES".

CUSTOMER RESPONSIBILITIES

- Read and observe the safety rules.
- Follow a regular schedule in maintaining, caring for and using your tiller attachment.
- Follow the instructions in the Customer Responsibilities and Storage sections of this Owner's Manual.

IMPORTANT: THIS UNIT IS EQUIPPED WITH AN INTERNAL COMBUSTION ENGINE AND SHOULD NOT BE USED ON OR NEAR ANY UNIMPROVED FOREST-COVERED, BRUSH-COVERED OR GRASS COVERED LAND UNLESS THE ENGINE'S EXHAUST SYSTEM IS EQUIPPED WITH A SPARK ARRESTER MEETING APPLICABLE LOCAL OR STATE LAWS (IF ANY). IF A SPARK ARRESTER IS USED, IT SHOULD BE MAINTAINED IN EFFECTIVE WORKING ORDER BY THE OPERATOR.

IN THE STATE OF CALIFORNIA THE ABOVE IS REQUIRED BY LAW (SECTION 4442 OF THE CALIFORNIA PUBLIC RESOURCES CODE). OTHER STATES MAY HAVE SIMILAR LAWS. FEDERAL LAWS APPLY ON FEDERAL LANDS. SEE YOUR SEARS SERVICE CENTER/ DEPARTMENT FOR SPARK ARRESTER. (REFER TO REPAIR PARTS SECTION OF THIS MANUAL).

LIMITED ONE YEAR WARRANTY ON CRAFTSMAN TILLER ATTACHMENT

For one year from date of purchase, when this tiller attachment is maintained, lubricated, and tuned up according to the operating and maintenance instructions in the owner's manual, Sears will repair free of charge any defect in material or workmanship.

This warranty does not cover:

- Expendable items which become worn during normal use, such as tines, spark plugs, air cleaners and belts.
- Repairs necessary because of operator abuse or negligence, including bent crankshafts and the failure to maintain the equipment according to the instructions contained in the owner's manual.
- If this Craftsman tiller attachment is used for commercial or rental purposes, this warranty applies for only 30 days from the date of purchase.

WARRANTY SERVICE IS AVAILABLE BY RETURNING THIS CRAFTSMAN TILLER TO THE NEAREST SEARS SERVICE CENTER/DEPARTMENT IN THE UNITED STATES. THIS WARRANTY APPLIES ONLY WHILE THIS PRODUCT IS IN USE IN THE UNITED STATES.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

SEARS, ROEBUCK AND CO., D/817 WA, HOFFMAN ESTATES, IL 60179

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ASSEMBLY

When R.H., (Right Hand) or L.H. (Left Hand) are used, it means from a position behind the steering wheel as If you were seated on the tractor seat and facing forward.

NOTE: Remove mower deck from tractor before mounting tiller attachment.

- Remove tiller from carton.

LEVEL TILLER

Place tiller on level ground so that tractor can be backed up to it for assembly.

CAUTION: Tiller will be heavy when performing the following step.

Adjust tiller gauge wheels so that engine is level (Fig. 1).

- Remove retainer spring from drilled rivet.
- Remove rivet and adjust gauge wheels up or down as required to level tiller. Replace rivet and retainer spring.

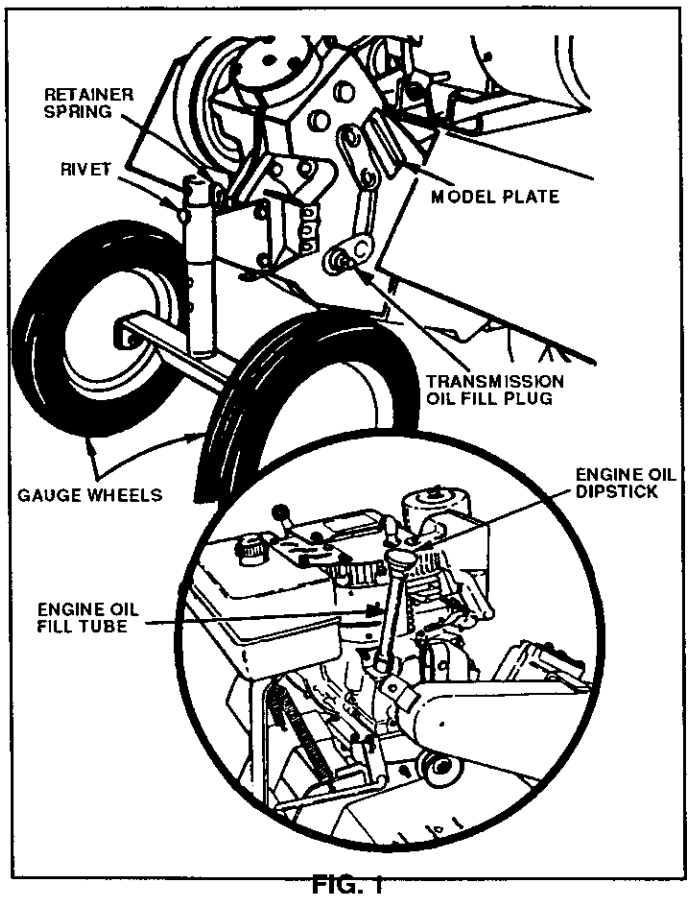

FIG. 1

ATTACHING TILLER TO TRACTOR

Optional accessory tractor weights and/or tire chains should be purchased to aid in the operation of this tiller attachment.

- Install one or more wheel weights to each rear wheel to insure good traction when operating. Tire chains can be used in place of, or in addition to, wheel weights.
- Install two front end weights to the front of the tractor. This will aid steering control.
- Check tractor tires for proper air pressure. See your tractor's Owner's Manual.
- Assemble sleeve hitch to tractor. See hitch Owner's Manual.
- Adjust stabilizer bolts so that ends are about flush with rear of hitch bail (Fig. 2 - Inset). Leave nuts loose.
- Lower hitch assembly and slide hitch yoke of tiller (Fig. 2 - Inset) over hitch tube of sleeve hitch so that the hitch pin holes line up.
- Insert hitch pin until it extends from bottom of hitch yoke (Fig. 2 - Inset). Insert retainer spring into hitch pin.
- Tighten both stabilizer bolts against the hitch yoke until there is no looseness at the hitch point. (The frame assembly does not swing sideways relative to the hitch bail (Fig. 2). Be sure the frame assembly is perpendicular (square) to the centerline (direction of travel) of the tractor. This can be determined by measuring the distance between the edge of tine shield (Fig. 2) and the back of the rear tires. This distance should be the same on the R.H. and L.H. sides within 1/2 inch. Securely tighten the nuts on the stabilizer bolts.

NOTE: The stabilizer bolts should be loosened before removing the tiller from the tractor. This will make it easier to remove the hitch pin and to line up hitch pin holes when installing another attachment. If tractor is to be used without a rear attachment, the stabilizer bolt should be secured by tightening the nuts (Fig. 2-Inset).

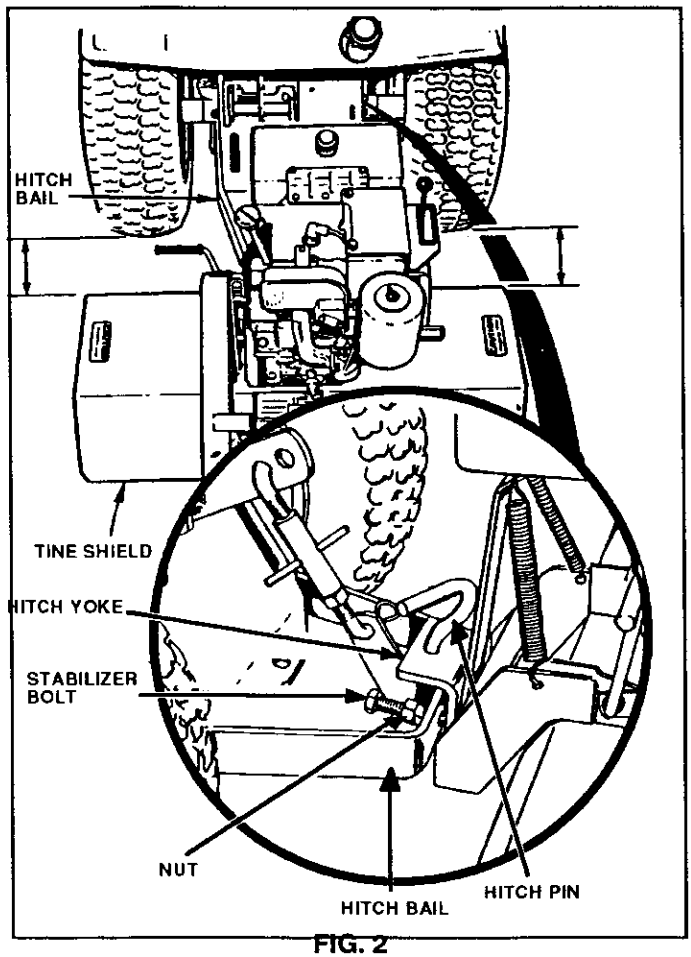

FIG. 2

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OPERATION

IMPORTANT: READ THE "RULES FOR SAFE OPERATION" CAREFULLY BEFORE OPERATING YOUR TILLER ATTACHMENT.

HOW TO USE YOUR TILLER

STOPPING (See Fig. 3)

TINES

- Move tine clutch lever to "DISENGAGED" position.

ENGINE

- Move engine throttle lever to "STOP" position.
- Never use choke to stop engine.

TO USE CHOKE CONTROL (See Fig. 3-Inset)

Use choke control whenever you are starting a cold engine. Do not use choke to start a warm engine.

- To engage choke, slowly move lever to desired position.

TO ADJUST TILLING DEPTH (See Figs. 4 & 5)

The tilling depth is controlled by the gauge wheels and to some extent by the adjustable link sleeve. When deeper tilling is required, the gauge wheels must be raised. Wheels must be lowered for shallower tilling,

- Remove retainer spring from drilled rivet. Adjust gauge wheels up or down as desired and replace rivet and retainer spring.

NOTE: Each hole will raise or lower gauge wheels 1 inch.

- Tiller can be leveled from front to rear by turning adjustable link sleeve. The adjustable link sleeve also controls tilling depth. Shortening the adjustable link sleeve and lift links will decrease tilling depth and lengthening will increase tilling depth.

TO OPERATE TILLER (See Fig. 3)

- Select desired tilling depth.
- Raise tiller with tractor lift control and disengage tiller clutch control.
- Start tiller engine. See "BEFORE STARTING ENGINE" in this section of manual.
- Move tine clutch lever to "ENGAGED" position. Disengage and engage several times to check the clutching action of the belt.
- Slowly lower tiller with tractor lift control and begin tractor forward movement.
- Never operate tractor in reverse when tiller is in the ground.
- To stop tiller and engine, disengage tine clutch lever and move throttle lever to "STOP" position.

BEFORE STARTING THE ENGINE

CHECK TRANSMISSION OIL LEVEL (See Fig. 1)

- The transmission has been filled at the factory.
- Check transmission oil with the tiller leveled on level ground.
- Remove oil fill plug. Oil should be level with the bottom of tiller plug hole. If necessary add oil until it is level with hole.

CHECK ENGINE OIL LEVEL (See Fig. 1)

The engine on your tiller has been shipped from the factory, already filled with summer weight oil.

- Check engine oil with engine leveled on level ground.
- Remove dipstick and wipe clean, replace, wait for a few seconds, remove and read oil level. If necessary, add oil until "FULL" mark on dipstick is reach. Do not overfill.
- For cold weather operation you should change oil for easier starting (See "OIL VISCOSITY CHART" in the Customer Responsibilities section of this manual).
- To change engine oil, see the Customer Responsibilities section in this manual.

ADD GASOLINE

- Fill fuel tank. Use fresh, clean, regular unleaded gasoline with a minimum of 87 octane. Do not mix oil with gasoline. Purchase fuel in quantities that can be used within 30 days to assure fuel freshness.

IMPORTANT: WHEN OPERATING IN TEMPERATURES BELOW 32°F (0°C), USE FRESH CLEAN WINTER GRADE GASOLINE TO HELP INSURE GOOD COLD WEATHER STARTING.

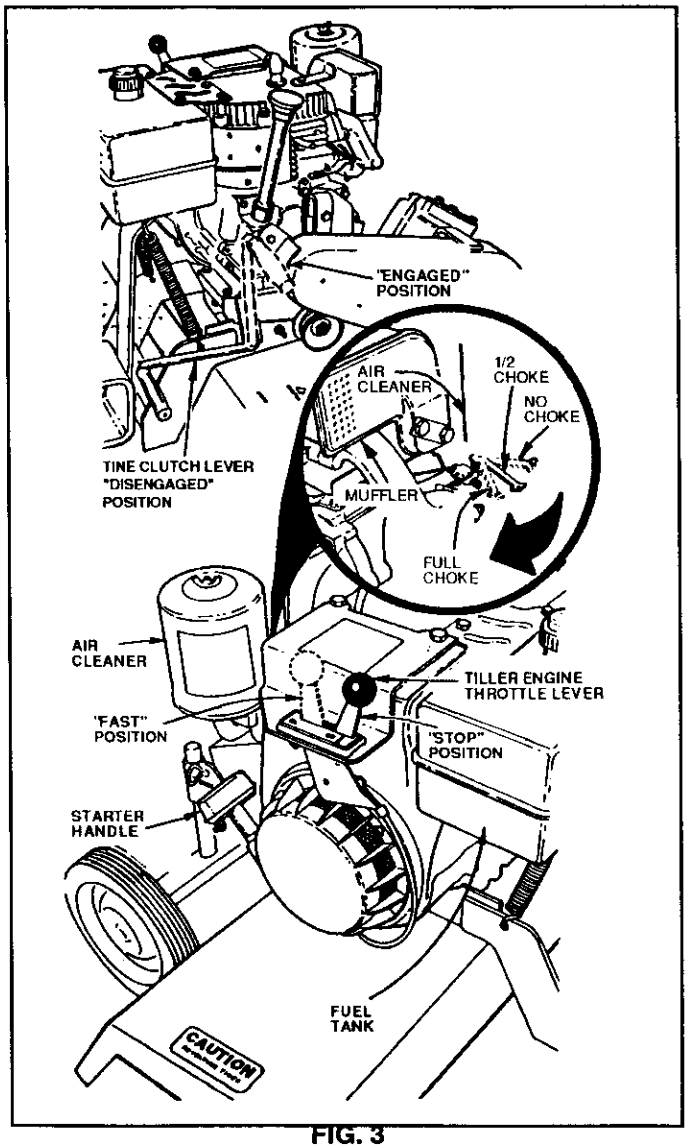

FIG. 3

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OPERATION

CAUTION: Fill to bottom of gas tank filler neck. Do not overfill. Wipe off any spilled oil or fuel. Do not store, spill or use gasoline near an open flame.

WARNING: Experience indicates that alcohol blended fuels called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer. Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel next season. See Storage sections of this manual for additional information. Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

TO START TILLER ENGINE (See Fig. 3)

CAUTION: Keep the tine clutch lever in "DISENGAGED" position when starting engine.

- Make sure spark plug wire is connected to spark plug.
- Move choke control lever to "FULL CHOKE" position for cold engine start. For warm engine start do not use choke control.
- Move tiller engine throttle to midway between "FAST" and "SLOW" positions.
- Grasp starter handle and pull rope out slowly until engine reaches start of compression cycle (rope will pull slightly harder at this point).
- Pull rope with a rapid, continuous, full arm stroke. Keep a firm grip on starter handle and let rope rewind slowly. Do not let starter handle snap back against starter.
- When engine starts, slowly move choke control on engine "1/2 CHOKE" position and then to "NO CHOKE" position as engine warms up.
- Move throttle control to desired running position.
- Allow engine to warm up for a few minutes before engaging tines.

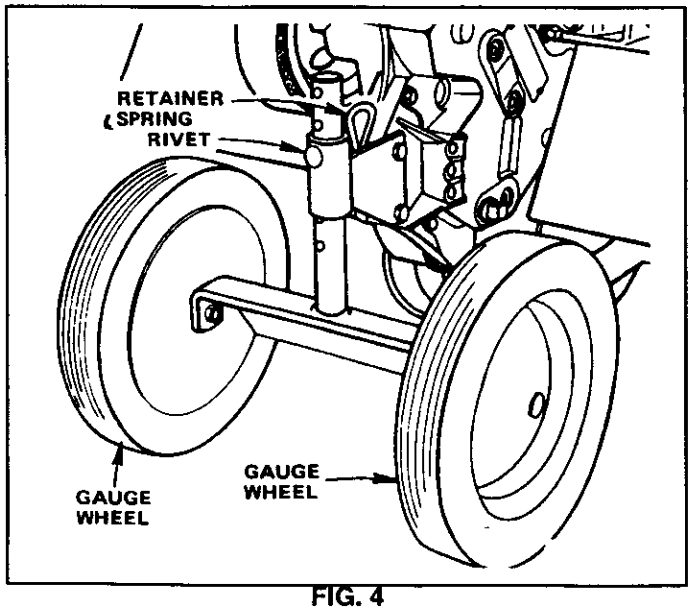

FIG. 4

NOTE: If at a high altitude (Above 3000 feet) or in cold temperatures (below 32°F), the carburetor fuel mixture may need to be adjusted for best engine performance. See "TO ADJUST CARBURETOR" in the Service and Adjustments section of this manual.

TILLING

The most efficient tillage is obtained when tiller engine is operated at full throttle. The sound of tiller engine will tell you when tiller engine is lightly loaded. Raise gauge wheels to increase tilling depth. If engine seems to be overloaded or stalls out, lower gauge wheels for shallower tilling.

Operate tiller engine at full throttle and operate tractor in slowest forward speed, with tractor engine at idle speed or just above idle. You will soon learn the proper combination of tilling depth and speed for good tillage.

Soil conditions will determine how deep tiller can penetrate on the first pass. In extremely hard ground, several passes may be necessary to till to a depth of 5 inches while in soft ground, tiller may penetrate to a depth of 5 inches in the first pass.

CULTIVATING

Set gauge wheels so that tiller will penetrate soil to a depth of 2 to 3 inches. Place rivet in the second or third hole from the bottom to attain this depth. The tiller engine should be run at full throttle except when cultivating small plants, a slower engine speed is necessary to prevent burying the plants.

OPERATION DO'S AND DON'TS

Always disengage tine clutch lever (Fig. 3) and stop engine when traveling to or from field (garden) or when not tilling.

Lift tiller out of the ground when turning corners.

Do not put tractor in reverse gear while tiller is in the ground.

Before leaving tractor seat, stop tractor, shift tractor to "NEUTRAL" position, throttle down and stop tractor engine, set parking brake, remove ignition key and then disengage tine clutch lever, throttle down and stop tiller engine, lower tiller to ground. Disconnect spark plug.

Disconnect spark plug wires before making any adjustments, repairs or to remove debris in tines.

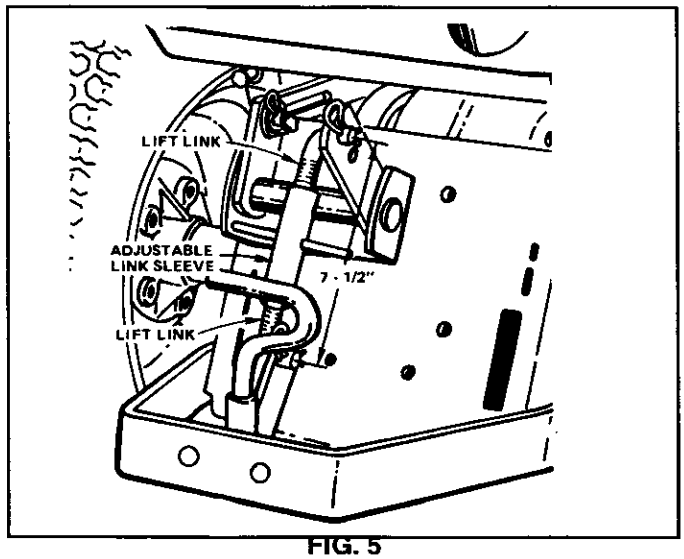

FIG. 5

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CUSTOMER RESPONSIBILITIES

MAINTENANCE SCHEDULE FILL IN DATES AS YOU COMPLETE REGULAR SERVICE	BEFORE EACH USE	EVERY 5 HOURS	EVERY 25 HOURS	EVERY 50 HOURS	SERVICE DATES									
Check Engine Oil Level	✔	✔												
Change Engine Oil			✔1,2											
Oil Pivot Points		✔												
Inspect Spark Arrester / Muffler				✔										
Inspect Air Screen	✔													
Clean or Replace Air Cleaner Cartridge				✔2										
Clean Engine Cylinder Fins				✔										
Replace Spark Plug				✔										

1 - Change more often when operating under a heavy load or in high ambient temperatures.
2 - Service more often when operating in dirty or dusty conditions.

GENERAL RECOMMENDATIONS

The warranty on this attachment does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, operator must maintain unit as instructed in this manual.

Some adjustments will need to be made periodically to properly maintain your unit.

All adjustments in the Service and Adjustments section of this manual should be checked at least once each season.

- Once a year you should replace the spark plug, clean or replace air filter, and check tines and belts for wear. A new spark plug and clean air filter assure proper air-fuel mixture and help your engine run better and last longer.

BEFORE EACH USE

- Check engine oil level.
- Check brake operation.
- Check tire pressure.
- Check for loose fasteners.

TILLER

TRANSMISSION LUBRICATION (See Fig. 6)

Check transmission oil level after first five (5) hours of operation and every ten (10) hours thereafter.

- Check transmission oil with the tiller leveled on level ground.
- Remove oil fill plug. Oil should be level with the bottom of filler plug hole. If necessary add SAE 30 motor oil or equivalent. SAE 5W-30 motor oil may be used in areas where temperature is consistently 32°F or lower.
- Tighten oil fill plug securely each time you check the oil level.

NOTE: It is not necessary to change the oil in tiller transmission. If for any reason, it must be changed, capacity is 1-1/4 quarts.

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CUSTOMER RESPONSIBILITIES

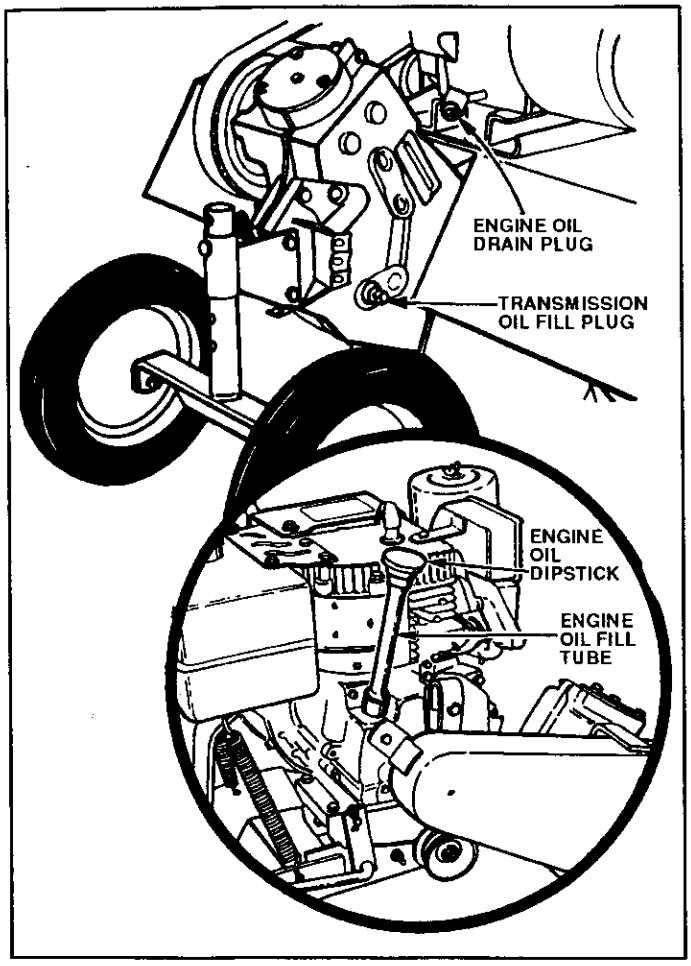

FIG. 6

ENGINE

LUBRICATION

Use only high quality detergent oil rated with API service classification SF or SG. Select the oil's SAE viscosity grade according to your expected temperature.

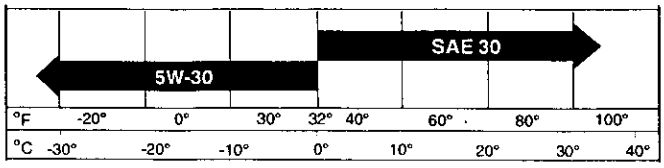

FIG. 7

NOTE: Although multi-viscosity oils (5W-30, 10W-30, etc.) improve starting in cold weather, these multi-viscosity oils will result in increased oil consumption when used above 32°F (0°C). Check your engine oil level more frequently to avoid possible engine damage from running low on oil.

Change the oil after every 25 hours of use, or at least once a year if the tiller is not used for 25 hours in one year.

Check the crankcase oil level before starting the engine and after each five (5) hours of continuous use. Add SAE 30 motor oil or equivalent. Tighten oil filler plug securely each time you check the oil level.

TO CHANGE ENGINE OIL (See Figs. 6 and 7)

Determine temperature range expected before oil change. All oil must meet API service classification SF or SG.

- Be sure tiller engine is level.
- Oil will drain more freely when warm.
- Catch oil in a suitable container.
- Remove drain plug.
- Tip tiller forward to drain oil.
- After oil has drained completely, replace oil drain plug and tighten securely.
- Remove oil filler plug. Be careful not to allow dirt to enter the engine.
- Refill engine with oil. See "CHECK ENGINE OIL LEVEL" in the Operation section of this manual.

AIR FILTER FOAM PRE-CLEANER (See Fig. 8)

Your engine will not run properly and may be damaged by using a dirty air filter. Remove cartridge every 25 hours and tap to clean. Replace paper cartridge once a year or after every 100 hours of operation, more often if used in very dusty, dirty conditions.

- Remove wing nut and cover.
- Remove foam pre-cleaner element by sliding it off of the paper cartridge.
- Wash foam pre-cleaner in liquid detergent and water.
- Wrap foam pre-cleaner in cloth and squeeze dry.
- Lightly coat foam pre-cleaner with clean engine oil. Squeeze in towel to remove excess oil. Do not saturate.
- Install foam pre-cleaner over paper cartridge.
- Reassemble cover and tighten wing nut securely.

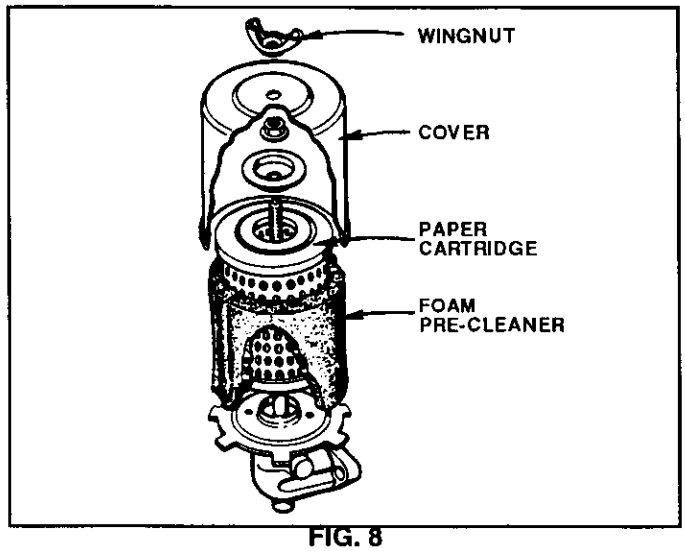

FIG. 8

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CUSTOMER RESPONSIBILITIES

COOLING SYSTEM (See Fig. 9)

Your engine is air cooled. For proper engine performance and long life keep your engine clean.

- Clean air screen frequently using a stiff bristled brush.
- Remove blower housing and clean as necessary.
- Keep cylinder fins free of dirt and chaff.

MUFFLER

Do not operate tiller without muffler. Do not tamper with exhaust system. Damaged mufflers or spark arresters could create a fire hazard. Inspect periodically and replace if necessary. If your engine is equipped with a spark arrester screen assembly, remove every 50 hours for cleaning and inspection. Replace if damaged.

SPARK PLUG

Replace spark plugs at the beginning of each tilling season or after every 50 hours of use, whichever comes first. Spark plug type and gap setting is shown in "PRODUCT SPECIFICATIONS" on page 3 of this manual.

CLEANING

- Clean engine, wheels, finish, etc. of all foreign matter.
- Keep finished surfaces and wheels free of all gasoline, oil, etc.
- Protect painted surfaces with automotive type wax.

We do not recommend using a garden hose to clean your unit unless the muffler, air filter and carburetor are covered to keep water out. Water in engine can result in a shortened engine life.

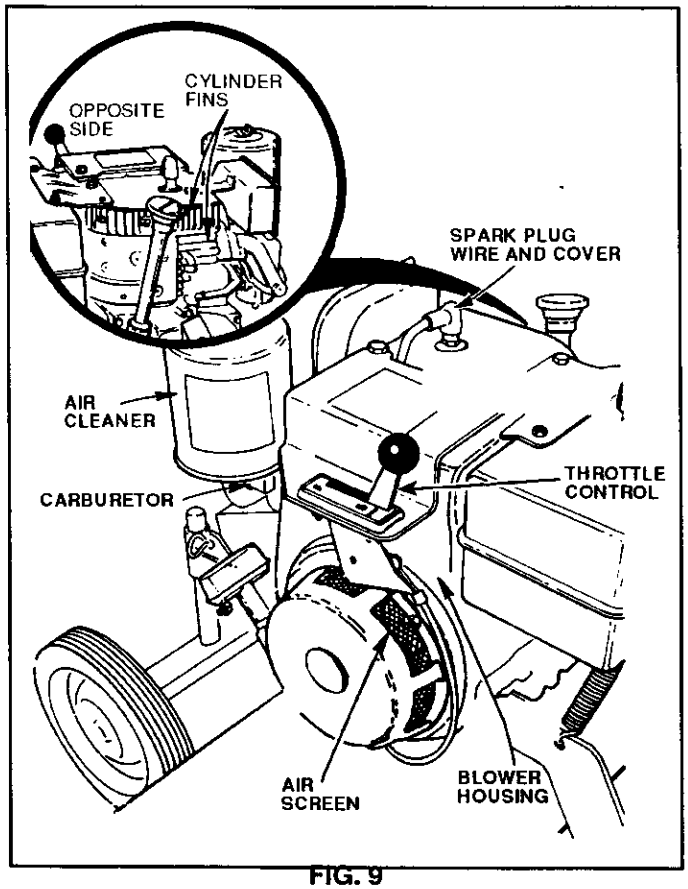

FIG. 9

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SERVICE AND ADJUSTMENTS

CAUTION: Disconnect spark plug wires from spark plug and place wire where it cannot come into contact with plug.

TILLER

TO ADJUST GAUGE WHEELS

See "TO ADJUST TILLING DEPTH" in Operation section of this manual.

TO ADJUST BELT (See Fig. 10)

The clutch is a belt-tightener type. Belt should be just tight enough to prevent slipping. Over-tightening will reduce belt life.

- To tighten belt, remove retainer spring securing belt tightener link to clutch lever and arm.
- Standing in front of tiller, turn link in a counterclockwise direction one turn at a time, until belt no longer slips.
- After initial adjustment, a force of approximately 10 lbs. at the end of the lever should engage the clutch. This would be heavy thumb pressure.

TO REPLACE BELT (See Fig. 10)

- Remove the three bolts holding belt guard to tiller. Remove guard.
- Remove old belt.
- Install new belt so that lower side of belt is above idler as shown.
- Adjust belt (see "TO ADJUST BELT" above).
- Replace belt guard. Make sure all moving parts will clear belt guard.

NOTE: If it should become necessary to remove the engine sheave, be sure that it is reinstalled so that the set screw end is toward the outside.

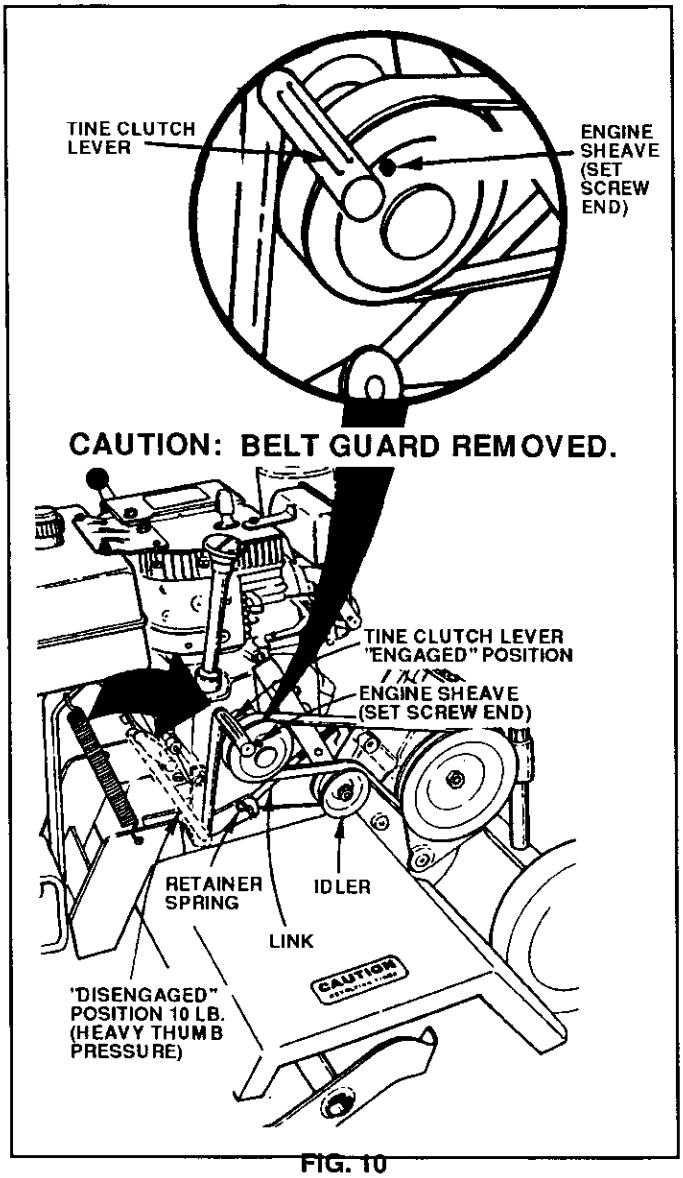

FIG. 10

ENGINE

Maintenance, repair, or replacement of the emission control devices and systems, which are being done at the customers expense, may be performed by any non-road engine repair establishment or individual. Warranty repairs must be performed by an authorized engine manufacturer's service outlet.

TO ADJUST CARBURETOR

The carburetor has been preset at the factory and adjustment should not be necessary. However, minor adjustments may be required to compensate for differences in fuel, temperature, altitude or load. If the carburetor does need adjustment, contact your nearest authorized srvice center/ department.

IMPORTANT: NEVER TAMPER WITH THE ENGINE GOVERNOR, WHICH IS FACTORY SET FOR PROPER ENGINE SPEED. OVER-SPEEDING THE ENGINE ABOVE THE FACTORY HIGH SPEED SETTING CAN BE DANGEROUS. IF YOU THINK THE ENGINE-GOVERNED HIGH SPEED NEEDS ADJUSTING, CONTACT YOUR NEAREST AUTHORIZED SERVICE CENTER, WHICH HAS PROPER EQUIPMENT AND EXPERIENCE TO MAKE ANY NECESSARY ADJUSTMENTS.

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STORAGE

Immediately prepare your tiller for storage at the end of the season or if the unit will not be used for 30 days or more.

CAUTION: Never store the tiller with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.

TILLER

- Clean entire tiller (See "CLEANING" in the Customer Responsibilities section of this manual).
- Inspect and replace belts, if necessary (See belt replacement instructions in the Service and Adjustments section of this manual).
- Lubricate as shown in the Customer Responsibilities section of this manual.
- Be sure that all nuts, bolts and screws are securely fastened. Inspect moving parts for damage, breakage and wear. Replace if necessary.
- Touch up all rusted or chipped paint surfaces; sand lightly before painting.

ENGINE

FUEL SYSTEM

IMPORTANT: IT IS IMPORTANT TO PREVENT GUM DEPOSITS FROM FORMING IN ESSENTIAL FUEL SYSTEM PARTS SUCH AS THE CARBURETOR, FUEL FILTER, FUEL HOSE, OR TANK DURING STORAGE. ALSO, EXPERIENCE INDICATES THAT ALCOHOL BLENDED FUELS (CALLED GASOHOL OR USING ETHANOL OR METHANOL) CAN ATTRACT MOISTURE WHICH LEADS TO SEPARATION AND FORMATION OF ACIDS DURING STORAGE. ACIDIC GAS CAN DAMAGE THE FUEL SYSTEM OF AN ENGINE WHILE IN STORAGE.

- Drain the fuel tank.
- Start the engine and let it run until the fuel lines and carburetor are empty.
- Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.
- Use fresh fuel next season.

NOTE: Fuel stabilizer is an acceptable alternative in minimizing the formation of fuel gum deposits during storage. Add stabilizer to gasoline in fuel tank or storage container. Always follow the mix ratio found on stabilizer container. Run engine at least 10 minutes after adding stabilizer to allow the stabilizer to reach the carburetor. Do not drain the gas tank and carburetor if using fuel stabilizer.

ENGINE OIL

Drain oil (with engine warm) and replace with clean oil. (See "ENGINE" in the Customer Responsibilities section of this manual).

CYLINDER(S)

- Remove spark plug.
- Pour 1 ounce (29 ml) of oil through spark plug hole into cylinder.
- Pull starter handle slowly several times to distribute oil.
- Replace with new spark plug.

OTHER

- Do not store gasoline from one season to another.
- Replace your gasoline can if your can starts to rust. Rust and/or dirt in your gasoline will cause problems.
- If possible, store your unit indoors and cover it to give protection from dust and dirt.
- Cover your unit with a suitable protective cover that does not retain moisture. Do not use plastic. Plastic cannot breathe which allows condensation to form and will cause your unit to rust.

IMPORTANT: NEVER COVER TILLER WHILE ENGINE AND EXHAUST AREAS ARE STILL WARM.

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TROUBLESHOOTING POINTS

PROBLEM	CAUSE	CORRECTION
Will not start	1. Out of fuel. 2. Engine not "CHOKED" properly. 3. Engine flooded. 4. Dirty air cleaner. 5. Water in fuel. 6. Clogged fuel tank. 7. Loose spark plug wire. 8. Bad spark plug or improper gap. 9. Carburetor out of adjustment.	1. Fill fuel tank. 2. See "TO START ENGINE" in Operation section. 3. Wait several minutes before attempting to start. 4. Replace air cleaner cartridge. 5. Drain fuel tank and carburetor, and refill tank with fresh gasoline. 6. Remove fuel tank and clean. 7. Make sure spark plug wire is seated properly on plug. 8. Replace spark plug or adjust gap. 9. Make necessary adjustments.
Hard to start	1. Throttle control not set properly. 2. Dirty air cleaner. 3. Bad spark plug or improper gap. 4. Stale or dirty fuel. 5. Loose spark plug wire. 6. Carburetor out of adjustment.	1. Place throttle control in "FAST" position. 2. Replace air cleaner cartridge. 3. Replace spark plug or adjust gap. 4. Drain fuel tank and refill with fresh gasoline. 5. Make sure spark plug wire is seated properly on plug. 6. Make necessary adjustments.
Loss of power	1. Engine is overloaded. 2. Dirty air cleaner. 3. Low oil level/dirty oil. 4. Faulty spark plug. 5. Oil in fuel. 6. Stale or dirty fuel. 7. Water in fuel. 8. Clogged fuel tank. 9. Spark plug wire loose. 10. Dirty engine air screen. 11. Dirty/clogged muffler. 12. Carburetor out of adjustment. 13. Poor compression.	1. Set depth stake for shallower tilling. 2. Replace air cleaner cartridge. 3. Check oil level/change oil. 4. Clean and regap or change spark plug. 5. Drain and clean fuel tank and refill, and clean carburetor. 6. Drain fuel tank and refill with fresh gasoline. 7. Drain fuel tank and carburetor, and refill tank with fresh line. 8. Remove fuel tank and clean. 9. Connect and tighten spark plug wire. 10. Clean engine air screen. 11. Clean/replace muffler. 12. Make necessary adjustments. 13. Contact an authorized Service Center.
Engine overheats	1. Low oil level/dirty oil. 2. Dirty engine air screen. 3. Dirty engine. 4. Partially plugged muffler. 5. Improper carburetor adjustment.	1. Check oil level/change oil. 2. Clean engine air screen. 3. Clean cylinder fins, air screen, and muffler area. 4. Remove and clean muffler. 5. Adjust carburetor to richer position.
Excessive bounce/ difficult handling	1. Ground too dry and hard.	1. Moisten ground or wait for more favorable soil conditions.
Soil balls up or clumps	1. Ground too wet.	1. Wait for more favorable soil conditions.
Engine runs but tiller tines won't move	1. Tine clutch control is not engaged. 2. V-belt not correctly adjusted. 3. V-belt is off pulley(s).	1. Engage tine clutch control. 2. Inspect/adjust V-belt. 3. Inspect V-belt.
Engine runs but labors	1. Tilling too deep. 2. Carburetor out of adjustment.	1. Set gauge wheels for shallower tilling. 2. Make necessary adjustments.

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SERVICE NOTES

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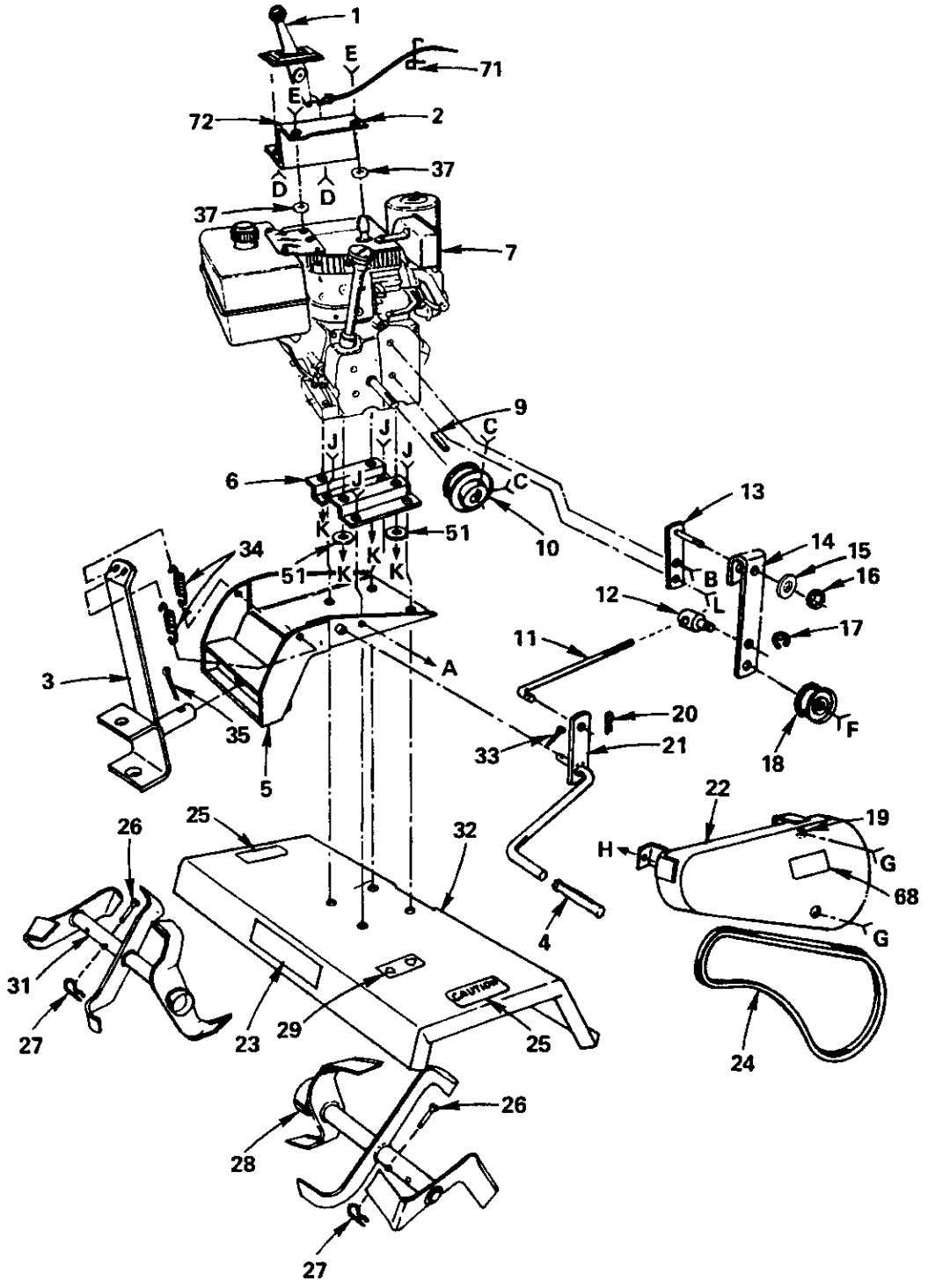
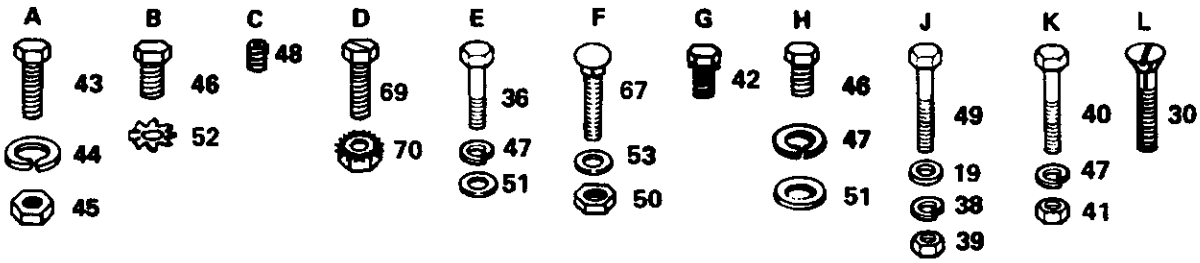
REPAIR PARTS

8 HP TILLER ATTACHMENT - - MODEL NUMBER 917.242484

ENGINE AND TINES





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REPAIR PARTS

8 HP TILLER ATTACHMENT - - MODEL NUMBER 917.242484

ENGINE AND TINES

KEY NO.	PART NO.	DESCRIPTION
1	132776	Control Throttle
2	6924J	Bracket, Throttle Control
3	677A860	Hitch Yoke Assembly
4	132044	Cover, Handle
5	677A855	Hitch Channel Assembly
6	6922R	Plate, Adapter
7	- - - - - -	Engine Tecumseh Model No. HM80-155644U
9	4914H	Square Key 1/4 x 1-1/4
10	8249R	Engine Sheave
11	6652H	Belt Tightener Link
12	6656H	Adjusting Pin
13	624A12	Idler Support Plate and Pivot
14	2360J	Idler Arm
15	19151116	Washer 15/32 x 11/16 x 16 Ga. (0 - 2 as required)
16	12000015	*E-Ring
17	6683H	E-Ring
18	4933H	Idler Pulley
19	STD551037	Washer 13/32 x 7/8 x 14 Ga.
20	4497H	Clip, Hairpin
21	626A430	Lever and Arm
22	634A726558	Belt Guard and Supports
23	163204	Decal, Craftsman
24	102655X	V-Belt
25	120075X	Decal, Caution
26	4929H	Drilled Pan Hd. Rivet 3/8 x 1-3/4
27	3146R	Clip, Hairpin
28	626A401	Tine Weldment, L.H.
29	8212R	Decal, On/Off
30	71180512	Screw, Fl. Hd. Mach. 5/16-24
31	626A402	Tine Weldment, R.H.
32	8224R558	Tine Shield
33	76020516	Cotter Pin 5/32 x 1
34	8905R	Spring
35	76020824	Cotter Pin 1/4 x 1-1/2
36	74760516	*Bolt, Hex 5/16-18 x 1 Gr. 2
37	19131311	Washer 13/32 x 13/16 x 11 Ga.
38	STD551137	*Washer Lock, Hvy. Hel. Spring
39	STD541037	*Nut, Hex 3/8-16 UNC
40	74760524	*Bolt, Hex 5/16-18 x 1-1/2 Gr. 2
41	STD541031	*Nut, Hex 5/16-18 UNC
42	15760512	Hex Bolt with Sems Ext. Washer Lock 5/16-18 UNC x 3/4
43	STD522510	*Hex Bolt 1/4-20 x 1
44	STD551125	*Washer Lock 1/4
45	STD541025	*Hex Nut 1/4-20 UNC
46	74770512	*Hex Bolt 5/16-24 x 3/4
47	STD551131	*Washer Lock 5/16
48	23200506	Hex Socket Set Screw 5/16-18x3/8
49	STD523715	*Hex Bolt 3/8-16 x 1-1/2
50	STD541437	*Hex Lock Nut 3/8-16 UNC
51	STD551031	*Washer 11/32 x 11/16 x 16 Ga.
52	11050500	Washer Lock External Tooth 5/16
53	19121214	Washer
67	STD533717	Bolt, Carriage 3/8-16 x 1-3/4
68	167258	Decal, 8 H.P.
69	STD511005	Screw
70	STD541462	Nut, Keps #10-24 UNC
71	4171R	Clip - Ins
72	108591X	Decal, Throttle
- -	179021	Owner's Manual

*STANDARD HARDWARE--PURCHASE LOCALLY

NOTE: All component dimensions given in U.S. inches. 1 inch = 25.4 mm.

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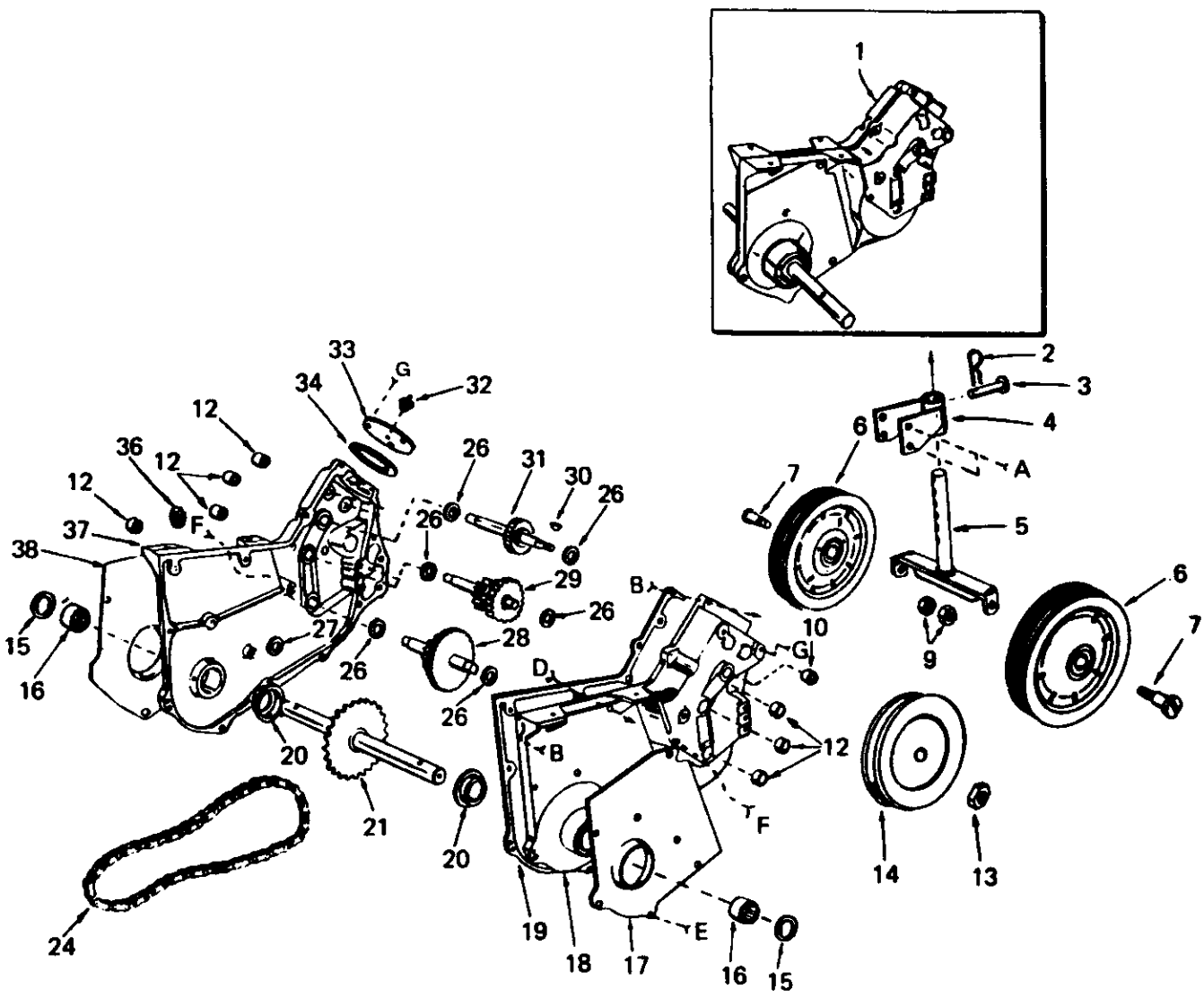
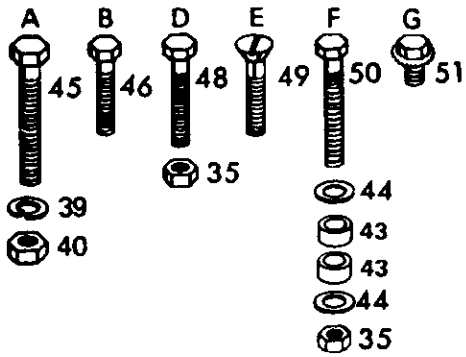
REPAIR PARTS

8 HP TILLER ATTACHMENT - - MODEL NUMBER 917.242484

TRANSMISSION AND GAUGE WHEELS





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REPAIR PARTS

8 HP TILLER ATTACHMENT - - MODEL NUMBER 917.242484

TRANSMISSION AND GAUGE WHEELS

KEY NO.	PART NO.	DESCRIPTION
1	634A562	Transmission
2	9135R	Retainer Spring
3	4929H	Drilled Pan Head Rivet 3/8 x 1-3/4
4	634A61	Gauge Wheel Sleeve and Brackets
5	634A559	Gauge Wheel Adjusting Shaft and Bracket
6	169374	Wheel
7	4898H	Shoulder Bolt
9	73560600	Locknut 3/8-16 UNC Nylock
10	5020J	Needle Bearing
12	4895H	Needle Bearing
13	9204H	Locknut 1/2-20 UNF
14	4932H	Input Sheave
15	4910H	Oil Seal
16	3039R	Needle Bearing
17	4877H1	Gear Case Shield L.H.
18	634A553	Gear Case and Bearings L.H. Half (Inc. Key No's. 10,12,16 & 20)
19	2601R	Gasket
20	4870H	Thrust Cap
21	634A555	Tine Shaft and Sprocket
24	2600R	Roller Chain
26	1370H	Thrust Washer
27	4912H	Gasket
28	634A59	2nd Reduction Shaft and Gears
29	634A58	1st Reduction Shaft and Gears
30	9858M1	Woodruff Key 3/16 x 5/8
31	634A57	Input Shaft and Pinion
32	5855H	Relief Valve
33	6672H	Gear Shift Cover
34	4913H	Gasket
35	1685H	Locknut 5/16-18 UNC
36	13060400	Pipe Plug 1/2-14 N.P.T.
37	634A554	Gear Case and Bearings R.H. Half (Inc. Key No's. 12, 16 & 20)
38	4878H1	Gear Case Shield R.H.
39	STD551137	*Washer Lock 3/8
40	STD541037	*Hex Nut 3/8-16 UNC
43	7850H	Spacer
44	STD551031	*Washer 11/32 x 11/16 x 16 Ga.
45	STD523722	*Hex Bolt 3/8-16 x 2-1/4
46	17860524	Hex Hd. Roll-Lok Thd. Forming Screw 5/16-18 x 1-1/2
48	STD523120	*Hex Bolt 5/16-18 x 2
49	20000524	Flat Hd. Slotted Roll-Lok Thd. Forming Screws 5/16-18 x 3/4
50	74780596	Hex Bolt 5/16-18 x 6 Gr. 5
51	15760512	Screw Mach. Hex Hd. 5/16-18 x 3/4

*STANDARD HARDWARE--PURCHASE LOCALLY

NOTE: All component dimensions given in U.S. inches.
1 inch = 25.4 mm.

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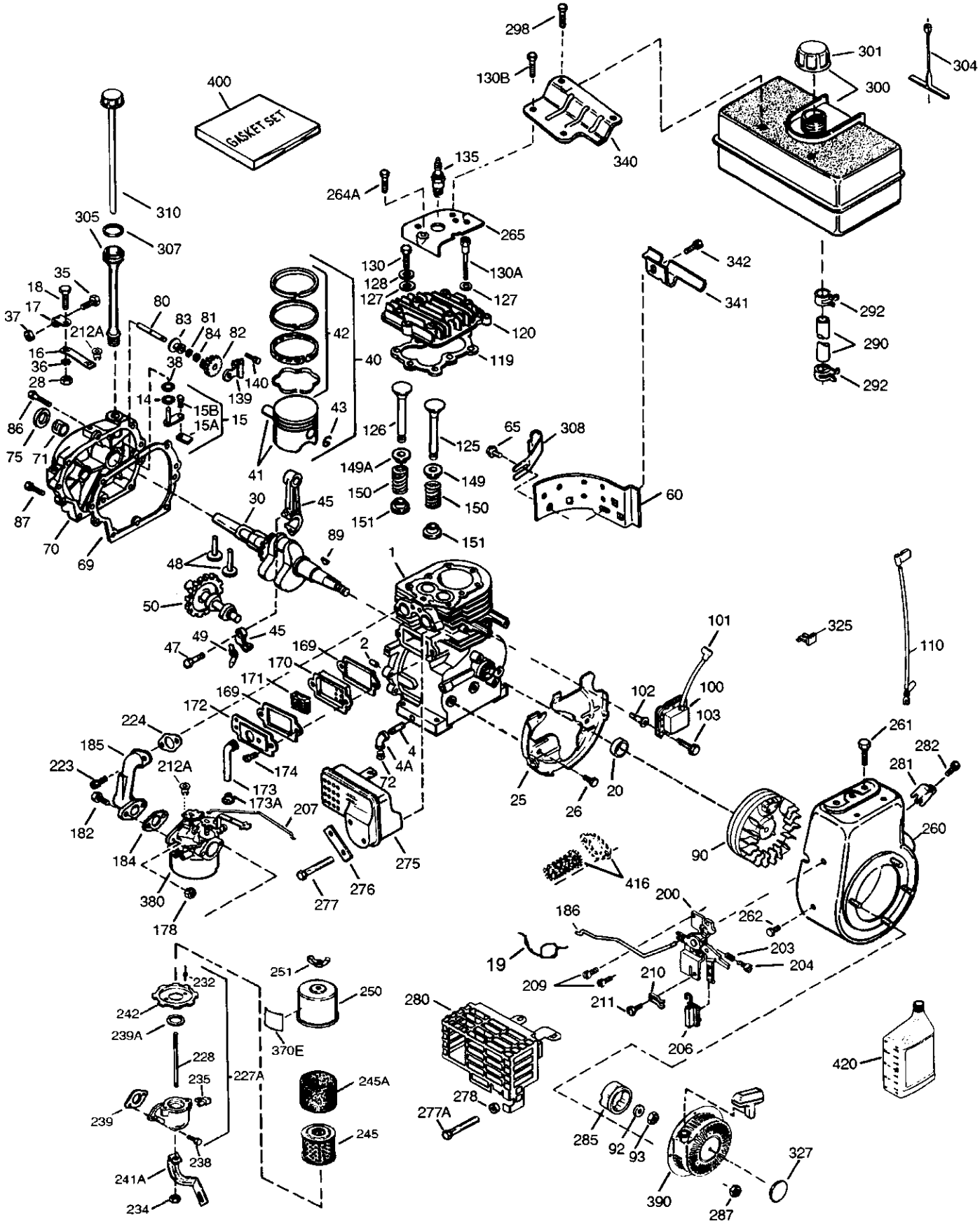
REPAIR PARTS

8 HP TILLER ATTACHMENT - - MODEL NUMBER 917.242484

ENGINE, TECUMSEH - - MODEL NUMBER HM80-155644U



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REPAIR PARTS

8 HP TILLER ATTACHMENT - - MODEL NUMBER 917.242484

ENGINE, TECUMSEH - - MODEL NUMBER HM80-155644U

KEY NO.	PART NO.	DESCRIPTION
1	35385	Cylinder (Incl. 2, 20 & 72)
2	27652	Dowel Pin
4	30968	Oil Drain Extension
4A	32214	Oil Drain Elbow 45 Degrees
14	28277	Washer
15	30699	Governor Rod (Incl. 15A & 15B)
15A	30700	Governor Yoke
15B	650494	Screw, 6-40 x 5/16"
16	37255A	Governor Lever (Incl. 212A)
17	29916	Governor Lever Clamp
18	651028	Screw, T-15, 8-32 x 7/16"
19	34663	Speed Control Spring
20	35319	Oil Seal
25	36460	Blower Housing Baffle
26	650561	Screw, 1/4-20 x 19/32"
28	30322	Lock Nut, 8-32
30	35372A	Crankshaft
35	29826	Screw, 10-32 x 3/4"
36	29918	Lock Washer
37	29216	Lock Nut, 10-32
38	29642	Retaining Ring
40	40011	Piston, Pin & Ring Set (Std.)
40	40012	Piston, Pin & Ring Set (.010" OS)
41	40009	Piston & Pin Ass'y. (Std.) (Incl. 43)
41	40010	Piston & Pin Ass'y. (.010" OS) (Incl. 43)
42	40013	Ring Set (Std.)
42	40014	Ring Set (.010" OS)
43	27888	Piston Pin Retaining Ring
45	36897	Connecting Rod Ass'y. (Incl. 47 & 49)
47	651033	Connecting Rod Bolt
48	34034	Valve Lifter
49	36896	Oil Dipper
50	35375	Camshaft (MCR)
60	33273A	Blower Housing Extension
65	650128	Screw, 10-24 x 1/2"
69	37342	* Cylinder Cover Gasket
70	35376A	Cylinder Cover (Incl. 71,75,80 Thru 84)
71	35377	Crankshaft Bushing
72	27642	Oil Drain Plug
75	35319	Oil Seal
80	37587	Governor Shaft
81	651080	Washer
82	37588	Governor Gear Ass'y. (Incl. 81)
83	30588A	Governor Spool
84	29193	Retaining Ring
86	650833	Screw, 1/4-20 x 1-3/16"
87	650832	Screw, 1/4-20 x 1-11/16"
89	32589	Flywheel Key
90	611090	Flywheel
92	650880	Lock Washer
93	650881	Flywheel Nut
100	35135A	Solid State Ignition (Incl. 101)
101	610118	Spark Plug Cover
102	651024	Solid State Mounting Stud
103	651007	Screw, T-15, 10-24 x 15/16"
110	35187	Ground Wire
119	36448	* Cylinder Head Gasket
120	36449	Cylinder Head
125	27878A	Exhaust Valve (Std.) (Incl. 151)
125	27880A	Exhaust Valve (1/32" OS) (Incl. 151)
126	34035	Intake Valve (Std.) (Incl. 151)
127	650691	Washer
128	650690	Belleville Washer
130	650694A	Screw, 5/16-18 x 2"
130A	650727	Screw, 5/16-18 x 1-25/32"
130B	650273	Screw, 5/16-18 x 17/32"
135	33636	Resistor Spark Plug (RJ17LM)
139	33369	Governor Gear Bracket
140	650836	Screw, 10-24 x 1/2"
149	27882	Valve Spring Cap
149A	35862	Valve Spring Cap
150	27881	Valve Spring
151	32581	Valve Spring Keeper
169	27896A	* Breather Gasket
170	28423	Breather Body
171	28424	Breather Element
172	28425	Valve Cover
173	34696	Breather Tube
173A	32446	Breather Tube Grommet
174	650128	Screw, 10-24 x 1/2"
178	29752	Nut & Lock Washer, 1/4-28
182	30088A	Screw, 1/4-28 x 1"
184	33263	* Carburetor To Intake Pipe Gasket
185	34707	Intake Pipe
186	34667	Governor Link
200	34664	Control Bracket (Incl. 19, 203 & 204)
203	31342	Compression Spring
204	651029	Screw, T-10, 5-40 x 7/16"
206	610973	Terminal
207	37448	Throttle Link
209	650821	Screw, 10-32 x 1/2"
210	27793	Conduit Clip
211	28942	Screw, 10-32 x 3/8"
212A	36288	Bushing
223	650378	Screw, T-30, 5/16-18 x 1-3/32"
224	27915A	* Intake Pipe Gasket
227A	35044	Air Cleaner Elbow Ass'y. (Incl. 228, 232, 239A 1 & 242)
228	650851	Stud, 1/4-20 x 8.1
232	— —	Pop Rivet (Purchase Locally)
234	650852	Nut, 1/4-20
235	30675	Air Cleaner Elbow Fitting
238	650163	Screw, 10-32 x 7/8"
239	27272A	* Air Cleaner Gasket
239A	34698A	* Air Cleaner Gasket
241A	37279	Air Cleaner Collar
242	34699	Air Cleaner Bracket
245	34700B	Air Cleaner Filter
245A	34703	Air Cleaner Filter
250	34702	Air Cleaner Cover
251	650886	Wing Nut, 1/4-20
260	34833B	Blower Housing
261	650788	Screw, 5/16-18 x 3/4"
262	29747B	Screw, T-40, 5/16-24 x 21/32"
264A	650802	Screw, 1/4-20 x 5/8"
265	33272D	Cylinder Head Cover
275	34185B	Muffler
276	31588	Locking Plate
277	650729	Screw, 5/16-18 x 3-3/16"
277A	651036	Screw, 5/16-18 x 3-31/32"
278	36908	Spacer
280	36799A	Heat Shield (Incl. 277A & 278)
281	33013	Starter Bubble Cover
282	650760	Screw, 8-32 x 3/8"
285	35985B	Starter Cup
287	29752	Nut & Lock Washer, 1/4-28
290	30705	Fuel Line
292	26460	Fuel Line Clamp
298	650665	Screw, 1/4-15 x 3/4"
300	34156A	Fuel Tank (Incl. 292 & 301)
301	36246	Fuel Cap
304	35480	Fuel Cap Retainer
305	35554	Oil Fill Tube
307	35499	"O" Ring
308	35540	Fill Tube Clip
310	36205	Dipstick
325	29443	Wire Clip
327	35392	Screen Plug
340	36598	Fuel Tank Bracket
341	35834	Fuel Tank Bracket
342	30063	Screw, T-30, 1/4-20 x 1/2"
370E	37089	Air Cleaner Decal
380	640268	Carburetor (Incl. 184 & 212A)
390	590746	Rewind Starter
400	36450C	Gasket Set (Incl. Items Marked *)
416	34479A	Spark Arrestor Kit (Optional)
420	730225A	SAE 30 4-Cycle Engine Oil (Quart)
— —	NONE	Replacement Engine
— —	756316B	Shortblock
— —	— —	PRM Low 1700
— —	— —	RPM High 3350 to 3650

NOTE: This engine could have been built with 590704 starter.

NOTE: All component dimensions given in U.S. inches
1 inch = 25.4 mm

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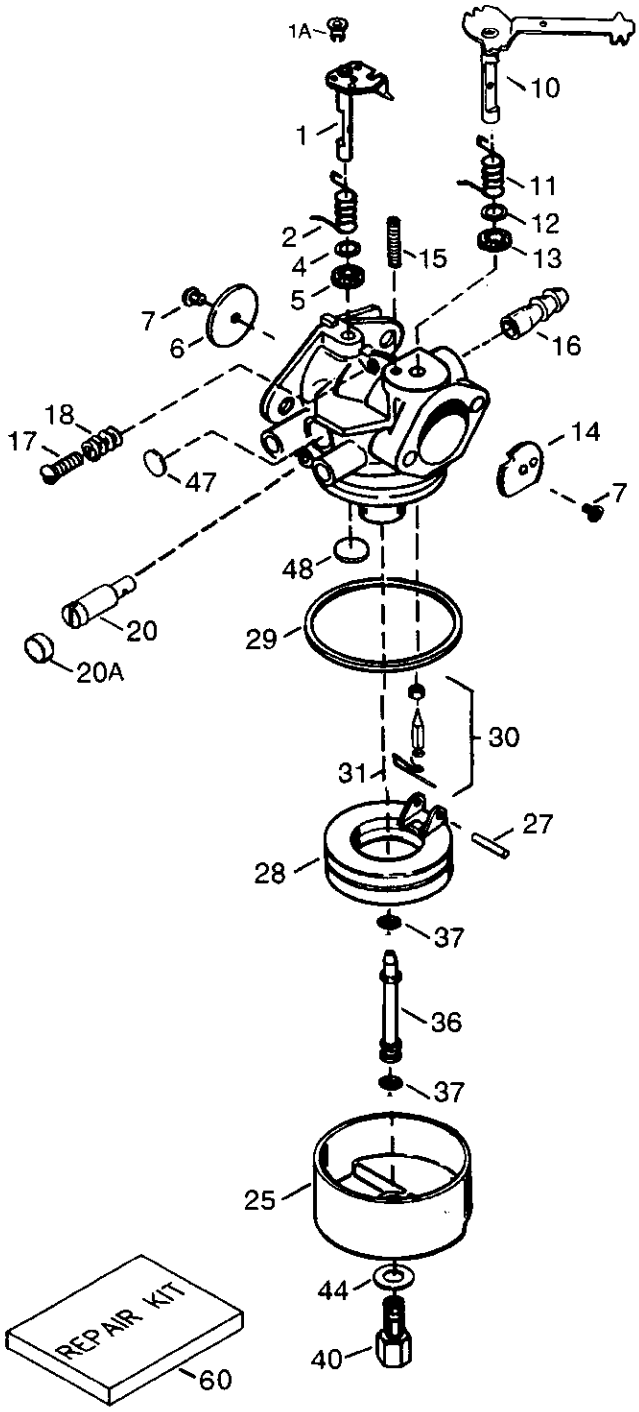
REPAIR PARTS

8 HP TILLER ATTACHMENT - - MODEL NUMBER 917.242484

ENGINE, TECUMSEH - - MODEL NUMBER HM80-155644U



KEY NO.	PART NO.	DESCRIPTION
— —	640268	Carburetor (Incl. 184 of Engine Parts List)
1	632798	Throttle Shaft & Lever Assembly
1A	36288	Link Bushing
2	631970	Throttle Return Spring
4	631184	* Dust Seal Washer
5	631183	* Dust Seal (Throttle)
6	640109	Throttle Shutter
7	650506	* Shutter Screw
10	632217	Choke Shaft & Lever Assembly
11	632043	Choke Return Spring
12	631184	* Dust Seal Washer
13	631183	* Dust Seal (Choke)
14	632799	Choke Shutter
15	630735	Choke Positioning Spring
16	632164	Fuel Fitting
17	651025	Throttle Crack Screw/Idle Speed Screw
18	630766	Tension Spring
20	640027	Idle Restrictor Screw
20A	640053	Idle Restrictor Screw Cap
25	631867	Float Bowl
27	631024	* Float Shaft
28	632765	Float
29	631028	* Float Bowl "O" Ring
30	631021	* Inlet Needle, Seat & Clip (Incl. 31)
31	631022	Spring Clip
36	640113	Main Nozzle Tube
37	632547	* "O" Ring, Main Nozzle Tube
40	640137	High Speed Bowl Nut
44	27110A	Bowl Nut Washer
47	630748	* Welch Plug, Idle Mixture Well
48	631027	* Welch Plug, Atmospheric Vent
60	632760	Repair kit (Incl. Items Marked *)

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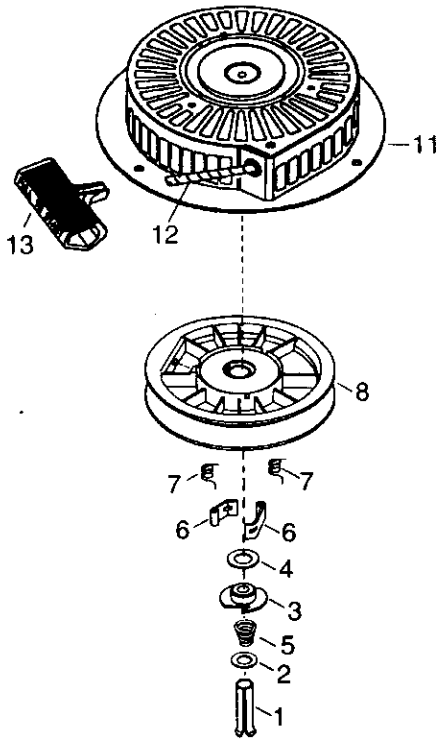
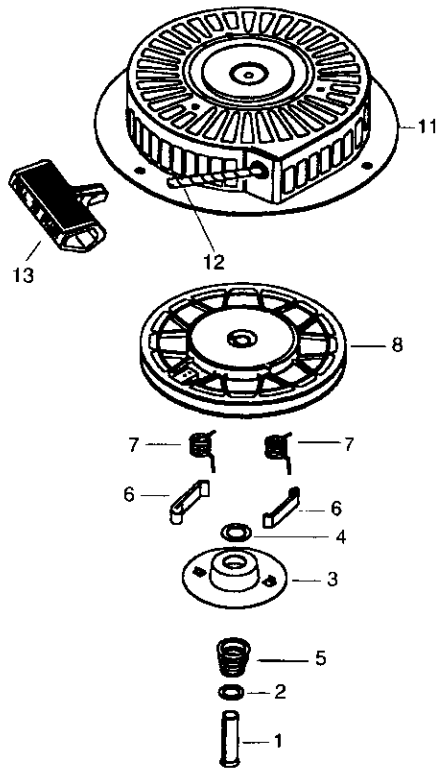
ENGINE, TECUMSEH - - MODEL NUMBER HM80-155644U



KEY NO.	PART NO.	DESCRIPTION
——	590746	Recoil Starter
1	590599A	Spring Pin (Incl. 4)
2	590600	Washer
3	590679	Retainer
4	590601	Washer
5	590678	Brake Spring
6	590680	Starter Dog
7	590412	Dog Spring
8	590681	Pulley & Rewind Spring Assembly
11	590747	Starter Housing Assembly
12	590535	Starter Rope (Length 98" x 9/64" dia.)
13	590701	Starter Handle



KEY NO.	PART NO.	DESCRIPTION
——	590704	Recoil Starter
1	590599A	Spring Pin (Incl. 4)
2	590600	Washer
3	590696	Retainer
4	590601	Washer
5	590697	Brake Spring
6	590698	Starter Dog
7	590699	Dog Spring
8	590700	Pulley & Rewind Spring Ass'y
11	590705	Starter Housing Ass'y.
12	590535	Starter Rope (98" X 9/64" dia.)
13	590701	Starter Handle

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